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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/554,716 | 09/18/2006 | Peter Hader | JK/AK 0701 US-PAT | 9517 |
| 95402 7590 08/05/2010 LEYDIG, VOIT AND MAYER TWO PRUDENTIAL PLAZA, SUITE 4900 180 NORTH STETSON AVENUE CHICAGO, IL 60601 | | | EXAMINER CIGNA, JACOB JAMES | |
| | | | ART UNIT 3726 | PAPER NUMBER |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|-------------------------------------|--|
| Office Action Summary | Application No. 10/554,716 | Applicant(s) HADER ET AL. | |
| | Examiner JACOB J. CIGNA | Art Unit 3726 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 July 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claims 7-9 are no longer objected to based on the amendments submitted 9 July 2010.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-10 and 13-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Schiel (US Patent No. 5,081,759 hereinafter referred to as SCHIEL).
4. As to claim 1, SCHIEL discloses a **roll** (a cylinder) **for pressure treatment of material bands, with a carrier** (central axis 1), **with a roll shell** (roll-shell 2) **mounted around the carrier** (“A roll-shell 2 rotates about central axis 1” (Column 5 lines 61-62).), **with at least one pressure chamber** (upper semicircular “first chamber” 7) **between the carrier and the roll shell, which chamber is filled at least partly with a supporting liquid** (at least one of [chambers 7, 8 are] filled with fluid when the roll is in the operative condition (Column 5 lines 66-67)) **which can transmit the hydraulic supporting force from the carrier to the roll shell** (the fluid is adapted to transfer a hydraulic supporting force from the central axis to the roll-shell (Claim 1)), **at least indirectly wherein in the at least one pressure chamber** (upper semicircular “first chamber” 7) **there is provided an elastic element** (rubber tube 21 is “flexible”) **which**

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unrestrictedly communicates with the liquid (while SCHIEL teaches that there are covers 22 and 25 creating choke-passages, SCHIEL also positively teaches “An increase in air-pressure bring about, on the one hand, an increase in pressure in fluid-chamber 7 (“first chamber”), and thus a simultaneous increase in the fluid-pressure in groove 20 (“second chamber”)” (Column 7 lines 43-47). As shown in Figure 4, 100% of the circumference of the gas-filled flexible tube 21 is in contact with the fluid in chamber 20. The fluid in chamber 20 is the same fluid at the same pressure as chamber 7, as evidenced by Column 7 lines 43-47. Thus, the rubber tube 21 is not restricted from communicating with the fluid of chamber 7.) **and is compressible when the liquid pressure required for producing the hydraulic supporting force is exceeded** (“In the simplest case, i.e. with atmospheric pressure in the chambers, the second chamber, which is always arranged directly in or at the central axis, is in the form of a volume-compensating vessel, the upper part of which and is filled with air, is connected to the free environment through an aerating and venting line. As a rule, however, an overpressure is adjusted in the first chamber. In this case, the second chamber which, as known from Rauf et al, is again arranged directly in or at the central axis, is in the form of a resiliently flexible pressure-accumulator” (Column 3 lines 22-33). Thus, the accumulator is disclosed to be compressible.).

5. As to claim 2, SCHIEL discloses the roll as claimed in claim 1, wherein **the roll comprises at least one leakage chamber** (lower first fluid chamber 8) **for receiving supporting liquid leaving the pressure chamber** (lower first fluid chamber 8 is

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capable of receiving supporting liquid leaving the pressure chamber via the seal 5 and in one embodiment, line 45 (Column 7 lines 29-30)).

6. As to claim 3, SCHIEL discloses the roll as claimed in claim 3, wherein **at least one elastic element** (rubber tube 21) **is provided in the at least one leakage chamber** (as shown in Figure 3, the rubber tubes 21 are shown to be in communication with the lower first fluid chamber 8).

7. As to claim 4, SCHIEL discloses the roll as claimed in claim 1, wherein **the at least one elastic element** (rubber tube 21) **comprises a hollow chamber which is, or can be, provided with a compressible medium** (“a gas-filled flexible tube 21 is provided in central axis 1” (Column 7 lines 22-23). Gas is known to be a compressible medium.).

8. As to claim 5, SCHIEL discloses the roll as claimed in claim 4, wherein **the at least one elastic element is formed as a hose** (SCHEIL’s rubber tube 21 is a hose.).

9. As to claim 6, SCHIEL discloses the roll as claimed claim 4, wherein the **compressible medium is air** (“In the simplest case, i.e. with atmospheric pressure in the chambers, the second chamber, which is always arranged directly in or at the central axis, is in the form of a volume-compensating vessel, the upper part of which and is filled with air...” (Column 3 lines 22-27)).

10. As to claim 7, SCHIEL discloses the roll as claimed in claim 6, wherein **the elastic element is closed** (rubber tube 21 is “a hermetically sealed rubber tube” (Column 6 line 25) **and filled with a predetermined pressure** (one aspect of the invention by SCHIEL is described as thus: “According to another concept of the

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invention, if the pressure in the first fluid-chamber changes, the gas-mass in the second chamber is adapted in such a manner that the volume of gas therein remains approximately constant" (Column 4 lines 4-8).).

11. As to claim 8, SCHIEL discloses the roll as claimed in claim 7, wherein **the elastic element is subjected to air under atmospheric pressure** (the simplest case is described where the rubber tube 21 as the "second chamber" is at atmospheric pressure. (Column 3 lines 22-27)).

12. As to claim 9, SCHIEL discloses the as claimed in claim 7, wherein **the elastic element comprises a one-way valve, by means of which it can be filled with air under a pressure that is lower than the pressure exerted on the hydraulic supporting liquid during operation** ("The interior of flexible tube 21 is connected, through a line 47, to the upper part of a hydraulic accumulator 48. The lower part thereof is adapted to be connected, through a line 49 and a pressure-regulating valve 50, either to a branch 51 of the pressure-line from pump 40, or to a relief-line 52. Compressed air at a variable pressure may be fed from a compressed-air source 53, and through a pressure-control valve 54, both to overflow valve 44 and to pressure-regulating valve 50. An increase in air-pressure brings about, on the one hand, an increase in pressure in fluid-chamber 7 ("first chamber"), and thus a simultaneous increase in the fluid-pressure in groove 20 ("second chamber")" (Column 7 lines 34-47).).

13. As to claim 10, SCHIEL discloses the roll as claimed in claim 6, wherein **the at least one elastic element is connected to a compressed air source, by means of**

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which the pressure can be adjusted in such a way that it is always slightly higher than the pressure exerted on the hydraulic supporting liquid (see SCHIEL Column 7 lines 34-47).

14. As to claim 13, SCHIEL discloses the roll as claimed in claim 1, wherein **the at least one elastic element is provided in a recess machined into the carrier** ("Milled into central axis 1, above and below each longitudinal seal 5a are "second chambers" in the form of a longitudinal groove 20" (Column 3 lines 41-43).).

15. As to claim 14, SCHIEL discloses the roll as claimed in claim 13, wherein **the recess (longitudinal groove 20) has the form of an axially parallel running longitudinal groove** (as shown in Figures 5 and 7, the longitudinal groove 20 has the form of an axially parallel running longitudinal groove.).

16. As to claim 15, SCHIEL discloses the roll as claimed in claim 1, wherein **the means for determining the hydraulic pressure exerted on the supporting liquid are provided** (Applicant's disclosure teaches a pressure sensor for determining the pressure within the pressure chamber. As further discussed in the discussion of claim 16, SCHIEL discloses a means for determining the pressure exerted on the liquid through a "gas-accumulator.").

17. As to claim 16, SCHIEL discloses the roll as claimed in claim 15, wherein **the roll is designed in such a way that the means for determining the hydraulic pressure serve for controlling or regulating the pneumatic pressure to which the at least one elastic element is subjected** ("According to another concept of the invention, if the pressure in the first fluid-chamber changes, the gas-mass in the second chamber is

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adapted in such a manner that the volume of gas therein remains approximately constant... To this end, the gas-space in the second chamber may communicate, through a connecting line through the central axis, with an external gas-accumulator which is controlled, as a function of pressure, in such a manner that, if the pressure in the first fluid-chamber rises, a corresponding gas-mass is added through the connecting line while, if the pressure in the first fluid-chamber falls, a corresponding gas-mass is removed" (Column 4 lines 4-19).).

Claim Rejections - 35 USC § 103

18. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

19. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

20. Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schiel (US Patent No. 5,081,759 hereinafter referred to as SCHIEL) as applied to

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claims 5 or 10 respectively and further in view of Roberts (US Patent 2,396,059 hereinafter referred to as ROBERTS).

21. As to claim 11, SCHIEL discloses the roll as claimed in claim 5, but does not teach **the elastic elements formed as hoses comprise means for internal support.**

ROBERTS teaches a rubber hose which is intended for use as a gas-carrying hose which is capable of expanding but has an internal support structure. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have provided the rubber hoses as taught by SCHIEL with the addition of the internal support structure as taught by ROBERTS because one would have recognized that, as taught by ROBERTS, using an internal support structure allows the rubber to be more flexible.

22. As to claim 12, SCHIEL discloses the roll as claimed in claim 10, but does not teach **the means for internal support comprise a spiral coil of an elastically deformable material.** ROBERTS teaches a rubber hose which is intended for use as a gas-carrying hose which is capable of expanding but has an internal support structure comprised of a steel-wire spring. Examiner notes that a steel-wire spring is an elastically deformable spiral coil. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have provided the rubber hoses as taught by SCHIEL with the addition of the steel-wire spring as taught by ROBERTS because one would have recognized that, as taught by ROBERTS, using spiral coil of an elastically deformable material such as a steel-wire spring allows the rubber to be more flexible.

Response to Arguments

23. Applicant's arguments filed 9 July, 2010 have been fully considered but they are not persuasive. Each of applicants arguments are set forth below in italics, followed by examiner's response.

24. *The Applicants respectfully disagree with the Examiner's interpretation of Schiel. Fig. 7 specifically teaches a "constricted connecting line running from upper semicircular chamber 7 to groove 20 [as] is indicated diagrammatically at 11." See Schiel, column 7, lines 32-34. The constricted connecting line 11 is also clearly shown in Fig. 7 as is shown in the cutout below: [drawing omitted]*

Examiner agrees that SCHIEL teaches a constricted connecting line.

25. *The comment in Schiel that "[t]he cover closing off groove 20 is omitted" simply conveys to a person of ordinary skill in the art that said feature is not shown in Fig. 7. If this were otherwise, Schiel would contain no contrary teaching on constricted connecting line 11 in Fig. 7, nor would constricted connecting line 11 need to be specifically shown in Fig. 7, nor would Fig. 7 specifically show a separate space between the groove 20 and the first chamber 7.*

After careful consideration of the arguments, examiner recognizes that the teaching that "the cover closing off groove 20 is omitted" does not teach an embodiment wherein no cover closing off groove exists, but rather that SCHIEL is merely not showing the cover closing off groove in the drawing. Examiner agrees that this would have been known to a person having ordinary skill in the art based on the teachings of constricted line 11 shown in Figure 7. Examiner has maintained the rejection because

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the teachings of SCHIEL present an elastic element which unrestrictedly communicates with the liquid regardless of whether a cover closing off groove (20) exists. Examiner has shown in the rejection of claim 1 that the flexible tube 21 is not prevented or otherwise restricted from being in communication with the fluid. Figure 4 teaches that the circumference of the flexible tube 21 is in fact 100% surrounded by the fluid. For example, there is no diaphragm or floating piston acting between the fluid and the flexible tube which would restrict the flexible tube from communicating directly with the fluid. Although the covers 22, 25 may have choke-gaps 24 and other constrictions 11, it is plainly taught in Column 7 lines 43-47 that "An increase in air-pressure bring about, on the one hand, an increase in pressure in fluid-chamber 7 ("first chamber"), and thus a simultaneous increase in the fluid-pressure in groove 20 ("second chamber")." Thus, the choke-gaps and constrictors affect the fluid but the communication of the fluid with the flexible tube 21 is not restricted.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JACOB J. CIGNA whose telephone number is (571) 270-5262. The examiner can normally be reached on Monday - Friday 9:30am - 5:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bryant can be reached on (571) 272-4526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JACOB J CIGNA/
Examiner, Art Unit 3726
August 4, 2010

/DAVID P. BRYANT/
Supervisory Patent Examiner, Art Unit 3726